A NEW PARASITIC BEETLE FROM CALIFORNIA (RIPIPHORIDAE).

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Many adults of the *Ripiphorus* below described were seen in a restricted area near Blythe, Calif., in mid-July and again in mid-August, 1938, by Commander C. M. Dammers and Mr. Geo. P. Engelhardt. The latter writes that the bottom lands along the California side of the Colorado River near Blythe are being greatly changed by extensive agricultural development—trees and brush removed, ditches cut, and embankments thrown up by dredges. When the area was visited August 13, 1938, the parasitic beetles and their host bees were flying in abundance and alighting on the tips of a brushy plant, 3 to 5 feet high with inconspicuous flowers, suggestive of *Hymenoclea*. Courting and mating pairs of the beetles could be seen but there seemed to be several times as many males as females. The bees have been sent to Mr. P. H. Timberlake and described by him as a new species which he has called *Diadasia consociata*. They were busily gathering pollen and were easily traced to a nearby sandy clay bank, where their burrows penetrated several inches and yielded pollen-filled cells or bee larvae in various stages, as well as adults of the parasitic beetle with last larval and pupal skins, but living larvae of the parasite were not observed. The excessive heat, 120° F., in the bottom lands near the river discouraged prolonged investigation, but the series of almost 100 *Ripiphorus* and the data supplied are admirable. In his brief letter transmitting his sample Commander Dammers writes, possibly referring to his visit in July, that the beetles were on plants which were not yet in bloom and which were then not being visited by the bees.

Mr. J. C. Bridwell permits me to abstract observations he has been making near Washington, D. C., on another species of *Ripiphorus* (probably *R. stylopides* Newn.) which is parasitic upon *Augochlora pura,* since they are suggestive of the developmental stages of the western species and show contrast in climatic and environmental adaptations. He has discussed the more or less confused and conflicting literature with me and has exhibited most of the larval stages. Fertilized females of this bee hibernate in soft rotten logs and hibernating triungulinids (first-stage larvae) of *Ripiphorus* attached to their hairs are also found awaiting the nest-making activity of their host. One of them must be left in the

stored cell when the bee makes and seals it the following spring or summer, and when the larva of the bee is sufficiently grown it enters the body of the grub. There is remains, still in its first-stage larval skin, until the bee larva reaches the prepupal condition, but it becomes so enormously distended that the intersegmental membrane grows to perhaps a hundred times the area of the original overlapping sclerites. It then cuts its way through one side of the thorax of the larva, and moults but remains attached to its host, curled transversely around its neck. It feeds through the hole made in issuing from its host, usually leaving only the skin of the latter; then pupates and transforms. Some of the details of this outline have not been personally observed.

Apparently, then, the size of the adult parasite should be nearly that of its host which, being standardized by the mass of food stored by the parent bee, will vary but little. But what happens when, or if, some of the multitude of triungulinids attach to other species of bees and may still mature and breed? Their size should be smaller or larger, according to host size, and they would be difficult to recognize as conspecific with a known standard. Such problems confront us in numerous groups of parasitic or highly specialized predators, such as *Brachynus, Pyrota, Catogenus, Sandalus,*[1] etc., where the larvae may fortuitously attack host species of different sizes, and the taxonomist is apt to find that his samples fall into two or more standards of size. *Ripiphorus* collected about Washington show enormous range in size but we do not know whether this indicates diverse sizes of hosts or several species each peculiar to a single host. If the latter, one must marvel at the intricate selective chemotropic stimuli which should guide the triungulinids towards success. It is doubtful if such a condition exists. The wastage must be excessive if a diversity of attractive flower visitors deceive their instincts for phoresy.

Among the recorded life cycles of ripiphorids compiled and discussed by Balduf, 1935 (Bionom. Entomoph. Coleop., p. 112–114) that of the very strange European genus *Metoecus,* which is parasitic in the paper nests of the social wasp *Vespa vulgaris,* is included, as *Rhipiphorus paradoxus,* with the American and the European species of *Ripiphorus* which parasitize solitary bees. The two genera are very distinct and the acceptance by Schilder, 1924 (Deutsch. Ent. Zeit., p. 237) of the validity of *Metoecus* Dejean is correct except that he cites the title page date 1833,

[1] The possibility that *Sandalus* represents an ancestral type of the meloid series should be considered from all aspects.

whereas the third fascicle of the Dejean Catalogue containing this name was published about June, 1834.

A male *Ripidius pectinicornis* Thunb. (*Symbius blattarum* Sund.), hitherto unknown in the United States, but parasitic in the common German roach, was found in a fruit-fly trap in Levi County, Fla., April 16, 1930, and it is hoped that an opportunity to restudy its life cycle may be found. Its parasitic habits seem not to have been observed for more than a century and its triungulinid first-stage larvae are still unknown.

Although emendations and reversions to original spelling are annoying because of different positions in indices, the lesser of two evils would seem in general to be the use of the originally proposed spelling. Especially is this desirable in cases where no derivation of the name is offered at time of proposal. To the great majority of users, names have now come to mean nothing more than the zoological unit for which they are the symbol, and relatively few users have sufficient classical experience to be annoyed at the absence of an aspirate in a technical name. This suppression of the harsh sound seems to have been a part of the French phonetic ideal and their spelling of names was by choice. Emendations of these names on the cultural standards of other schools of ancient learning have greatly complicated our already very complex nomenclature which is yet but a small fraction of what will be needed. The emendations *Rhipidius* and *Rhipiphorus,* and the derivative family name Rhipiphoridae (Gerstaecker, 1855) are here inserted only for cross indexing. In their original publications neither Thunberg nor Bosc cited a derivation for the generic names, which they spelled *Ripidius* and *Ripiphorus,* and the latter is valid the year previous to the date 1792 which is usually cited. This earlier publication (La Médecine éclairée—Fourcroy's—Vol. 1. 1791, p. 327) is little more than an advance abstract of the formal paper (Jour. Hist. Nat., Vol. 2, 1792, p. 293—not seen by the present writer), but contains characterization of the genus based upon specimens taken near Montpellier by Dorthez.

The following species is named in appreciation of the energetic entomologist who found and marveled at the first specimen of this odd parasitic beetle.

Ripiphorus dammersi, n. sp.

Abdomen orange red in both sexes, the first and sometimes the second tergite more or less infuscate; head and pro-, meso-, and metanotum shining, black above and below, the pronotum often with a pair of lutescent prescutellar spots, upper surface

except the front practically impunctate; elytra yellow, smooth, shining, impunctate; antennae of male yellow, the long compressed rami feebly infuscate apically; antennae of female black; legs yellow, the middle femora usually infuscate at base and the hind legs mostly brown except apices or outer edges of the joints, which are pale; wings conspicuously infuscate from before middle nearly to apex. Length 4.5–6 mm.

The type series of nearly a hundred specimens was collected at Blythe, Calif., July 15, 1938, by C. M. Dammers (13 ♂, 1 ♀) and August 13, 1938, by G. P. Engelhardt and C. M. Dammers (73 ♂, 10 ♀).

Holotype ♂ and 56 paratypes (50 ♂, 6 ♀).—U. S. National Museum, No. 53082. Other paratypes returned to Commander Dammers and Geo. P. Engelhardt.

This species displays characteristics which lead through the key in the revision by Rivnay, 1929 (Mem. Amer. Ent. Soc., No. 6, pp. 42 and 54) to the four species having the pronotum impunctate and forming group *popenoei,* from all of which it differs in color and in its much smaller size. This varies but little in the type series and the size differences, as indicated in the above-measured lengths, are deceptive because various postures of the specimens permit no standard of entire length. Some variation in color is evident in the type series, chiefly in the gradational appearance of a triangular yellow area on sides of the black metasternum behind the middle coxae. The prescutellar spots are often obsolete, and the infuscation of the bilobed first abdominal tergite, which usually consists of four dark spots, may be suppressed or may enlarge nearly to cover this sclerite. In the latter condition a pair of small infuscate spots are sometimes present on the second tergite also.

Ennearthron oblongum (*E. oblongus* Blatchley, Beetles of Indiana), a little representative of the beetle family Ciidae, 1–1.5 mm. long, was found abundant in *Polyporus* bracket fungus at Detroit, Mich., April 27, 1938. This little fellow has horns on both the head and thorax.—Geo. Steyskal, Detroit, Mich.